

REPORT NUMBER: 703

MSDS NO: EZ060041

MAINFRAME UPLOAD DATE: 05/14/08

UNIVAR USA INC.

MATERIAL SAFETY DATA SHEET

PAGE: 001

VERSION: 012

PRODUCT: ISOPROPANOL / ISOPROPYL ALCOHOL 99%

ORDER NO: 427652

PROD NO : 501620

DODGE COMPANY
165 CAMBRIDGE PARK DRIVE

CAMBRIDGE ,MA 02140

UNIVAR USA INC.
17425 NE UNION HILL RD , REDMOND

(425)889-3400
, WA 98052

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC
(800)424-9300

PRODUCT NAME: ISOPROPANOL / ISOPROPYL ALCOHOL 99%
MSDS NUMBER: EZ060041
DATE ISSUED: 04/10/2008
SUPERSEDES: 03/21/2008
ISSUED BY: 009292

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME ISOPROPANOL / ISOPROPYL ALCOHOL 99%

DISTRIBUTED BY:
UNIVAR USA INC.
17425 NE UNION HILL RD.
REDMOND, WA 98052
425-889-3400

CHEMICAL NAME 2-PROPANOL

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MOLECULAR FORMULA C3H8O
MOLECULAR WEIGHT 60.09
PRODUCT USE SOLVENT
OSHA STATUS HAZARDOUS

FOR EMERGENCY TRANSPORTATION INFORMATION, IN THE UNITED STATES: CALL CHEMTREC
AT 800-424-9300

2. COMPOSITION INFORMATION ON INGREDIENTS

(TYPICAL COMPOSITION IS GIVEN, AND IT MAY VARY. A CERTIFICATE OF ANALYSIS CAN
BE PROVIDED, IF AVAILABLE.)

WEIGHT %	COMPONENT	CAS REGISTRY NO.
100%	ISOPROPYL ALCOHOL	67-63-0

3. HAZARDS IDENTIFICATION

WARNING!

FLAMMABLE LIQUID AND VAPOR
CAUSES EYE IRRITATION
HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF THE EYES OR
RESPIRATORY TRACT
PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DRYING, CRACKING, OR IRRITATION
FORMS EXPLOSIVE PEROXIDES

HMIS HAZARD RATINGS: HEALTH - 2, FLAMMABILITY -3, CHEMICAL REACTIVITY 1

HMIS RATING INVOLVES DATA INTERPRETATIONS THAT MAY VARY FROM COMPANY TO
COMPANY. THEY ARE INTENDED ONLY FOR RAPID, GENERAL IDENTIFICATION OF THE
MAGNITUDE OF THE SPECIFIC HAZARD. TO DEAL ADEQUATELY WITH THE SAFE HANDLING
OF THIS MATERIAL, ALL THE INFORMATION CONTAINED IN THIS MSDS MUST BE
CONSIDERED.

4. FIRST-AID MEASURES

INHALATION: MOVE TO FRESH AIR. TREAT SYMPTOMATICALLY. GET MEDICAL ATTENTION
IF SYMPTOMS PERSIST.

EYES: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF EASY
TO DO, REMOVE CONTACT LENSES. GET MEDICAL ATTENTION. IN CASE OF IRRITATION
FROM AIRBORNE EXPOSURE, MOVE TO FRESH AIR. GET MEDICAL ATTENTION IF SYMPTOMS
PERSIST.

SKIN: WASH WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES. GET
MEDICAL ATTENTION IF SYMPTOMS OCCUR. WASH CONTAMINATED CLOTHING BEFORE REUSE.
THOROUGHLY CLEAN SHOES BEFORE REUSE.

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INGESTION: SEEK MEDICAL ADVICE.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, ALCOHOL FOAM

SPECIAL FIRE-FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING. FIGHT FIRE FROM A PROTECTED LOCATION. WATER MAY BE INEFFECTIVE IN FIGHTING THE FIRE. USE WATER SPRAY TO KEEP FIRE-EXPOSED CONTAINERS COOL.

HAZARDOUS COMBUSTION PRODUCTS: CARBON DIOXIDE, CARBON MONOXIDE

UNUSUAL FIRE AND EXPLOSION HAZARDS: VAPORS MAY CAUSE A FLASH FIRE OR IGNITE EXPLOSIVELY. VAPORS MAY TRAVEL CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. PREVENT BUILDUP OF VAPORS OR GASES TO EXPLOSIVE CONCENTRATIONS. FORMS EXPLOSIVE PEROXIDES WHICH MAY BE SHOCK SENSITIVE.

ACCIDENTAL RELEASE MEASURES

USE PERSONAL PROTECTIVE EQUIPMENT. ELIMINATE ALL IGNITION SOURCES. ABSORB SPILL WITH VERMICULITE OR OTHER INERT MATERIAL, THEN PLACE IN A CONTAINER FOR CHEMICAL WASTE.

FOR LARGE SPILLS: USE WATER SPRAY TO DISPERSE VAPORS AND DILUTE SPILL TO A NONFLAMMABLE MIXTURE. PREVENT RUNOFF FROM ENTERING DRAINS, SEWERS, OR STREAMS. DIKE FOR LATER DISPOSAL.

7. HANDLING AND STORAGE

PERSONAL PRECAUTIONARY MEASURES: AVOID BREATHING HIGH VAPOR CONCENTRATIONS. AVOID CONTACT WITH EYES AND PROLONGED OR REPEATED CONTACT WITH SKIN. DO NOT TASTE OR SWALLOW. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

PREVENTION OF FIRE AND EXPLOSION: KEEP AWAY FROM HEAT, SPARKS, AND FLAME. KEEP FROM CONTACT WITH OXIDIZING MATERIALS. USE ONLY WITH ADEQUATE VENTILATION. COMPLY WITH ALL NATIONAL, STATE, AND LOCAL CODES PERTAINING TO THE STORAGE, HANDLING, DISPENSING, AND DISPOSAL OF FLAMMABLE LIQUIDS. DO NOT EXPOSE TO AIR. AFTER OPENING, PURGE CONTAINER WITH NITROGEN BEFORE RECLOSING. PERIODICALLY TEST FOR PEROXIDE FORMATION ON LONG-TERM STORAGE. IF PEROXIDE FORMATION IS SUSPECTED, DO NOT OPEN OR MOVE CONTAINER. DO NOT ALLOW TO EVAPORATE TO NEAR DRYNESS. DISTILL WITH CAUTION. ADDITION OF WATER OR APPROPRIATE REDUCING MATERIALS WILL LESSEN PEROXIDE FORMATION.

STORAGE: KEEP CONTAINER TIGHTLY CLOSED AND IN A WELL-VENTILATED PLACE.

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ADDITIONAL INFORMATION: STORE AWAY FROM HEAT AND LIGHT.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COUNTRY SPECIFIC EXPOSURE LIMITS HAVE NOT BEEN ESTABLISHED OR ARE NOT APPLICABLE UNLESS LISTED BELOW.

ISOPROPYL ALCOHOL

- US. NIOSH: POCKET GUIDE TO CHEMICAL HAZARDS
RECOMMENDED EXPOSURE LIMIT (REL): 400 PPM, 980 MG/M3
- US. NIOSH: POCKET GUIDE TO CHEMICAL HAZARDS
SHORT TERM EXPOSURE LIMIT (STEL): 500 PPM, 1,225 MG/M3
- US. OSHA TABLE Z-1 LIMITS FOR AIR CONTAMINANTS (29 CFR 1910.1000)
PEL: 400 PPM, 980 MG/M3
- US. ACGIH NOTICE OF INTENDED CHANGES (NIC) TO THRESHOLD LIMIT VALUES
TIME WEIGHTED AVERAGE (TWA): 200 PPM,
- US. ACGIH NOTICE OF INTENDED CHANGES (NIC) TO THRESHOLD LIMIT VALUES
SHORT TERM EXPOSURE LIMIT (STEL): 400 PPM,

ISOPROPANOL (ISOPROPYL ALCOHOL)

- US. ACGIH NOTICE OF INTENDED CHANGES (NIC) TO THRESHOLD LIMIT VALUES
TIME WEIGHTED AVERAGE (TWA): 200 PPM,
- US. ACGIH NOTICE OF INTENDED CHANGES (NIC) TO THRESHOLD LIMIT VALUES
SHORT TERM EXPOSURE LIMIT (STEL): 400 PPM,

2-PROPANOL

- US. ACGIH THRESHOLD LIMIT VALUES
TIME WEIGHTED AVERAGE (TWA): 200 PPM,
- US. ACGIH THRESHOLD LIMIT VALUES
SHORT TERM EXPOSURE LIMIT (STEL): 400 PPM,

VENTILATION: GOOD GENERAL VENTILATION (TYPICALLY 10 AIR CHANGES PER HOUR) SHOULD BE USED. VENTILATION RATES SHOULD BE MATCHED TO CONDITIONS. IF APPLICABLE, USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO MAINTAIN AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS. IF EXPOSURE LIMITS HAVE NOT BEEN ESTABLISHED, MAINTAIN AIRBORNE LEVELS TO AN ACCEPTABLE LEVEL.

RESPIRATORY PROTECTION: IF ENGINEERING CONTROLS DO NOT MAINTAIN AIRBORNE CONCENTRATIONS BELOW RECOMMENDED EXPOSURE LIMITS (WHERE APPLICABLE) OR TO AN ACCEPTABLE LEVEL (IN COUNTRIES WHERE EXPOSURE LIMITS HAVE NOT BEEN ESTABLISHED), AN APPROVED RESPIRATOR MUST BE WORN. IN THE UNITED STATES OF AMERICA, IF RESPIRATORS ARE USED, A PROGRAM SHOULD BE INSTITUTED TO ASSURE COMPLIANCE WITH OSHA STANDARD 63 FR 1152, JANUARY 8, 1998. RESPIRATOR TYPE: AIR-PURIFYING RESPIRATOR WITH AN APPROPRIATE, GOVERNMENT APPROVED (WHERE APPLICABLE), AIR-PURIFYING FILTER, CARTRIDGE OR CANISTER. CONTACT HEALTH AND SAFETY PROFESSIONAL OR MANUFACTURER FOR SPECIFIC INFORMATION.

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EYE PROTECTION: WEAR SAFETY GLASSES WITH SIDE SHIELDS (OR GOGGLES). WEAR A FULL-FACE RESPIRATOR, IF NEEDED.

SKIN PROTECTION: FOR OPERATIONS WHERE PROLONGED OR REPEATED SKIN CONTACT MAY OCCUR, CHEMICAL-RESISTANT GLOVES SHOULD BE WORN. CONTACT HEALTH AND SAFETY PROFESSIONAL OR MANUFACTURER FOR SPECIFIC INFORMATION.

RECOMMENDED DECONTAMINATION FACILITIES: EYE BATH, WASHING FACILITIES, SAFETY SHOWER

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: LIQUID

COLOR: COLORLESS

ODOR: ALCOHOL

ODOR THRESHOLD: 22 PPM

SPECIFIC GRAVITY: 0.786 (20 DEG C)

VAPOR PRESSURE: 20 DEG C; 43.3 MBAR

VAPOR DENSITY: 2.1

MELTING POINT: -90 DEG C

BOILING POINT: 82 DEG C

EVAPORATION RATE: 1.7 (N-BUTYL ACETATE = 1) VISCOSITY: 2.38 MPA.S (20 DEG C)

SOLUBILITY IN WATER: COMPLETE

OCTANOL/WATER PARTITION COEFFICIENT: P: 1.4; LOG P: 0.14

FLASH POINT: 13 DEG C (TAG CLOSED CUP)

AUTOIGNITION TEMPERATURE: 432 DEG C (ASTM D2155)

THERMAL DECOMPOSITION TEMPERATURE: (HPDTA) NO EXOTHERM TO BOILING (AT 150 PSIG)

10. STABILITY AND REACTIVITY

STABILITY: STABLE. FORMS EXPLOSIVE PEROXIDES ON CONCENTRATION.

INCOMPATIBILITY: MATERIAL REACTS VIOLENTLY WITH STRONG OXIDIZING AGENTS, CROTONALDEHYDE

HAZARDOUS POLYMERIZATION: WILL NOT, OCCUR.

11. TOXICOLOGICAL INFORMATION

SKIN: THIS MATERIAL HAS A LOW POTENTIAL TO CAUSE ALLERGIC SKIN REACTIONS; HOWEVER, CASES OF HUMAN SKIN SENSITIZATION HAVE BEEN REPORTED.

ACUTE TOXICITY DATA, IF AVAILABLE, ARE LISTED BELOW. ADDITIONAL TOXICITY DATA MAY BE AVAILABLE ON REQUEST.

ORAL LD-50:(RAT)

5,800 MG/KG

ORAL LD-50:(RABBIT)

7,900 MG/KG

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ORAL LD-50:(DOG) 6,200 MG/KG
INHALATION LC-50: (RAT) 8 H: 12000 PPM
SKIN IRRITATION (RABBIT) SLIGHT
EYE IRRITATION (RABBIT) MODERATE

12. ECOLOGICAL INFORMATION

ACUTE TOXICITY DATA, IF AVAILABLE, ARE LISTED BELOW. ADDITIONAL TOXICITY DATA MAY BE AVAILABLE ON REQUEST.

OXYGEN DEMAND DATA:

BOD-5: 1,190 - 1,720 MG/G

BOD-20: 1,680 MG/G

COD (CHEMICAL OXYGEN DEMAND):: 2,230 MG/G

THBOD: 2,400 MG/G

ACUTE AQUATIC EFFECTS DATA:

96 H LC-50 (FATHEAD MINNOW): > 1000 U1/L

48 H LC-50 (GOLDEN ORFE): 8970 - 9280 MG/L

96 H LC-50 (DAPHNID): > 1000 U1/L

13. DISPOSAL CONSIDERATIONS

DISCHARGE, TREATMENT, OR DISPOSAL MAY BE SUBJECT TO NATIONAL, STATE, OR LOCAL LAWS. INCINERATE. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUE, FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTIED. RESIDUAL VAPORS MAY EXPLODE ON IGNITION; DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.

14. TRANSPORT INFORMATION

IMPORTANT NOTE: SHIPPING DESCRIPTIONS MAY VARY BASED ON MODE OF TRANSPORT, QUANTITIES, PACKAGE SIZE, AND/OR ORIGIN AND DESTINATION. CONSULT YOUR COMPANY'S HAZARDOUS MATERIALS/DANGEROUS GOODS EXPERT FOR INFORMATION SPECIFIC TO YOUR SITUATION.

DOT (USA)

POSSIBLE SHIPPING DESCRIPTION(S):

ISOPROPANOL

3 UN 1219 II

SEA - IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

POSSIBLE SHIPPING DESCRIPTION(S):

ISOPROPANOL

UN 1219 II

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AIR - ICAO (INTERNATIONAL CIVIL AVIATION ORGANIZATION)

POSSIBLE SHIPPING DESCRIPTION(S):

ISOPROPANOL

3 UN 1219 II

15. REGULATORY INFORMATION

SARA 311-312 HAZARD CLASSIFICATION(S):

IMMEDIATE (ACUTE) HEALTH HAZARD

FIRE HAZARD

SARA 313: NONE, UNLESS LISTED BELOW

CARCINOGENICITY CLASSIFICATION (COMPONENTS PRESENT AT 0.1% OR MORE): NONE,
UNLESS LISTED BELOW

TSCA (US TOXIC SUBSTANCES CONTROL ACT): THIS PRODUCT IS LISTED ON THE TSCA
INVENTORY. ANY IMPURITIES PRESENT IN THIS PRODUCT ARE EXEMPT FROM LISTING.
DSL (CANADIAN DOMESTIC SUBSTANCES LIST) AND CEPA (CANADIAN ENVIRONMENTAL
PROTECTION ACT):

THIS PRODUCT IS LISTED ON THE DSL. ANY IMPURITIES PRESENT IN THIS PRODUCT ARE
EXEMPT FROM LISTING.

EINECS (EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES): THIS
PRODUCT IS LISTED ON EINECS OR OTHERWISE COMPLIES WITH EINECS REQUIREMENTS.

EINECS NUMBER: 200-661-7

AICS / NICNAS (AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES AND NATIONAL
INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME): THIS PRODUCT IS
LISTED ON AICS OR OTHERWISE COMPLIES WITH NICNAS.

MITI (JAPANESE HANDBOOK OF EXISTING AND NEW CHEMICAL SUBSTANCES): THIS
PRODUCT IS LISTED IN THE HANDBOOK OR HAS BEEN APPROVED IN JAPAN BY NEW
SUBSTANCE NOTIFICATION.

ECL (KOREAN TOXIC SUBSTANCES CONTROL ACT): THIS PRODUCT IS LISTED ON THE
KOREAN INVENTORY OR OTHERWISE COMPLIES WITH THE KOREAN TOXIC SUBSTANCES
CONTROL ACT.

PHILIPPINES INVENTORY (PICCS) : THIS PRODUCT IS LISTED ON THE PHILIPPINE
INVENTORY OR OTHERWISE COMPLIES WITH PICCS.

INVENTORY OF EXISTING CHEMICAL SUBSTANCES IN CHINA: ALL COMPONENTS OF THIS
PRODUCT ARE LISTED ON THE INVENTORY OF EXISTING CHEMICAL SUBSTANCES IN CHINA
(IECSC).

16. OTHER INFORMATION

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----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR

UNIVAR USA INC.

DURING BUSINESS HOURS, PACIFIC TIME

(425)889-3400

10/28/08 13:51

PRODUCT: 501620

CUST NO: 175563

ORDER NO: 427652

----- NOTICE -----

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SPECIFICATION SHEET AND/OR A CERTIFICATE OF ANALYSIS. THESE CAN BE OBTAINED FROM
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* * * E N D O F M S D S * * *